AMERLOCK® 400

DESCRIPTION

Two-component, high solids epoxy coating

PRINCIPAL CHARACTERISTICS

- High performance self priming universal epoxy
- High solids, low VOC
- Surface tolerant and abrasion resistant
- Compatible with prepared, damp surfaces
- Good adhesion on most existing coatings
- Available in MIO or conventional pigmented grade
- Good resistance to splash and spillage of chemicals
- Meets NSF Standard 61 for valves (US manufacturing only)
- Qualified for use on concrete and steel surfaces in Nuclear Coating Service Level II Areas (USCA manufacturing only)

COLOR AND GLOSS LEVEL

- Standard primer colors and custom colors
- Semi-gloss

Note:

- Epoxy coatings will chalk and fade with exposure to sunlight. Light colors are prone to ambering to some extent. Note that product tinted to custom colors are not recommended for immersion service. Only use factory grind batches for immersion

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.4 kg/l (11.7 lb/US gal)
Volume solids	85 ± 2%
VOC (Supplied)	Directive 2010/75/EU, SED: max. 114.0 g/kg max. 163.0 g/l (approx. 1.4 lb/US gal) EPA Method 24: 1.5 lb/US gal (180.0 g/l)
Temperature resistance (Continuous)	To 120°C (250°F)
Temperature resistance (Intermittent)	To 175°C (350°F)
Recommended dry film thickness	100 - 200 µm (4.0 - 8.0 mils)
Theoretical spreading rate	8.5 m^2/l for 100 µm (341 ft^2/US gal for 4.0 mils)
Dry to touch	6 hours
Overcoating Interval	Minimum: 16 hours See overcoating tables

AMERLOCK® 400

Data for mixed product	
Shelf life	Base: at least 36 months when stored cool and dry Hardener: at least 36 months when stored cool and dry

Notes:

- See ADDITIONAL DATA – Spreading rate and film thickness
- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time
- For compliance with regulations which require VOC less than 100 g/L, AMERLOCK 400 VOC can be specified interchangeably
- AMERLOCK 400 VOC is available only in US and Canada
- Intermittent temperature resistance should be less than 5% of the time, and maximum 24 hours
- Temperature resistance is in atmospheric condition. Please contact your PPG representative for immersion condition.

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Coating performance is proportional to the degree of surface preparation. Remove all loose paint, mill scale, and rust. The surface to be coated must be dimensionally stable, dry, clean and free of grease, oil, and other foreign materials. When proper abrasive blast surface preparation is not practical, surfaces should be chipped clean and wire brushed to bare, clean material

Carbon steel

- For immersion service: steel; blast cleaned to ISO-Sa2½ (SSPC SP-10)
- For atmospheric service, abrasive blast to ISO-Sa2½ or minimum SSPC SP-6, power tool cleaned to ISO-St3 (SSPC SP-3) or hand tool cleaned to ISO-St2 (SSPC SP-2) or ultra high pressure water jet to SSPC SP WJ-2(L) / NACE WJ-2(L)

Concrete / Masonry

- Remove grease, oil and other penetrating contaminants according to ASTM D4258
- Abrade the surface per ASTM D4259 to remove all chalk and surface glaze or laitance. Achieve surface profile - ICRI CSP 3 to 5
- Fill voids as necessary with AMERCOAT 114 A epoxy filler
- Maximum recommended moisture transmission rate is 3 lbs/1,000 ft2/24 hours by moisture transmission test (ASTM F1869, calcium chloride test or by ASTM D4263, plastic sheet test)
- Alternatively, ASTM D4944 (Calcium Carbide Gas method) can be used where moisture content should not exceed 4%

AMERLOCK® 400

Galvanized steel

- Remove oil or soap film with detergent or emulsion cleaner
- Lightly abrasive blast with a fine abrasive in accordance with SSPC SP-16 guidelines to achieve a profile of 40 - 75 µm (1.5 - 3.0 mils). When light abrasive blasting is not possible, galvanizing can be treated with a suitable zinc phosphate conversion coating
- Galvanizing that has had at least 12 months of exterior weathering may be coated after power washing to remove all contaminants and white rust

Non-ferrous metals and stainless steel

- Remove all rust, dirt, moisture, grease or other contaminants from the surface
- Lightly abrasive blast with a fine abrasive in accordance with SSPC-SP 16 guidelines to achieve a profile of 40 - 100 µm (1.5 - 4.0 mils)

Aged coatings and repairs

- Aged suitable coating must be dry and free from any contamination
- For single-pack coatings, extra precautions are necessary

Substrate temperature

- Substrate temperature during application and curing should be between 5°C (41°F) and 50°C (122°F)
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point

SYSTEM SPECIFICATION

- Primers: Direct to substrate; DIMETCOTE Series, AMERCOAT 68 Series, AMERLOCK 2 / 400 Series, SIGMAZINC Series, AMERCOAT Epoxies and SIGMA Epoxies
- Topcoats: AMERCOAT 450 Series, SIGMADUR Series, SIGMACOVER Epoxies, AMERCOAT Epoxies, AMERSHIELD and PSX 700

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 1:1

- The paint should be stirred well before use, preferably by means of a mechanical mixer, to ensure homogeneity
- Add hardener to base and continue stirring until homogeneous

Pot life

2 hours at 20°C (68°F)

Note:

- See ADDITIONAL DATA – Pot life

AMERLOCK® 400

Air spray

Recommended thinner

THINNER 91-92 FOR GLOBAL, THINNER 21-06 (AMERCOAT 65) FOR NSF/ANSI 61, THINNER 21-25 (AMERCOAT 101) for NON NSF/ANSI 61 and > 90°F (32°C)

Volume of thinner

0 - 10%, depending on required thickness and application conditions

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Airless spray

Recommended thinner

THINNER 91-92 FOR GLOBAL, THINNER 21-06 (AMERCOAT 65) FOR NSF/ANSI 61, THINNER 21-25 (AMERCOAT 101) for NON NSF/ANSI 61 and > 90°F (32°C)

Volume of thinner

0 - 5%, depending on required thickness and application conditions

Nozzle orifice

Approx. 0.48 mm (0.019 in)

Nozzle pressure

15.0 - 18.0 MPa (approx. 150 - 180 bar; 2176 - 2611 p.s.i.)

Brush/roller

- Brush: apply evenly using a clean, well-loaded brush
- Application by brush or roller will provide approximately 80 µm (3.1 mils) DFT in a single-coat application

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Cleaning solvent

- THINNER 90-53, THINNER 90-58 (AMERCOAT 12) or THINNER 21-06 (AMERCOAT 65)

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
100 µm (4.0 mils)	8.5 m^2/l (341 ft^2/US gal)
125 µm (5.0 mils)	6.8 m^2/l (273 ft^2/US gal)
200 µm (8.0 mils)	4.3 m^2/l (170 ft^2/US gal)

AMERLOCK® 400

Overcoating interval for DFT up to 125 µm (5.0 mils)					
Overcoating with...	**Interval**	**10°C (50°F)**	**20°C (68°F)**	**30°C (86°F)**	**40°C (104°F)**
itself and various two-pack epoxy coatings	Minimum Maximum	36 hours 3 months	16 hours 3 months	6 hours 2 months	4 hours 1 month
urethane and PSX	Minimum Maximum	36 hours 1 month	16 hours 1 month	6 hours 14 days	4 hours 7 days

Curing time for DFT up to 125 µm (5.0 mils)			
Substrate temperature	**Dry to touch**	**Dry to handle**	**Full cure**
10°C (50°F)	24 hours	48 hours	21 days
20°C (68°F)	6 hours	20 hours	7 days
30°C (86°F)	3 hours	12 hours	4 days
40°C (104°F)	1 hour	8 hours	3 days

Notes:

- Adequate ventilation must be maintained during application and curing
- PPG 861 (AMERCOAT 861) accelerator (1 pint per 5 gallons) will reduce curing time to half (US supply only)

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
10°C (50°F)	3 hours
21°C (70°F)	2 hours
32°C (90°F)	1 hour
40°C (104°F)	30 minutes

Note:

- PPG 861 (AMERCOAT 861) accelerator (1 pint per 5 gallons) will reduce pot life to half (US supply only)

Product Qualifications

- Compliant with USDA Incidental Food Contact Requirements
- NFPA Class A for Flame Spread and Smoke Development
- Qualified for ANSI/NSF Standard 61 (potable water) for valves only. For NSF application instructions, please visit the following website: http://www.nsf.org/certified-products-systems/
- Nuclear Service Level 2 (ANSI N 5.12, ANSI N 101.2)
- LEED's compliant for Anti-corrosive Paint category

AMERLOCK® 400

SAFETY PRECAUTIONS

- See Safety Data Sheet and product label for complete safety and precaution requirements
- This is a solvent-borne paint and care should be taken to avoid inhalation of spray mist or vapor, as well as contact between the wet paint and exposed skin or eyes

WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective & Marine Coatings to supply the same product on a worldwide basis. However, slight modification of the product is sometimes necessary to comply with local or national rules/circumstances. Under these circumstances an alternative product data sheet is used.

REFERENCES

- Information sheet | Explanation of product data sheets

WARRANTY

PPG warrants (i) its title to the product, (ii) that the quality of the product conforms to PPG's specifications for such product in effect at the time of manufacture and (iii) that the product shall be delivered free of the rightful claim of any third person for infringement of any U.S. patent covering the product. THESE ARE THE ONLY WARRANTIES THAT PPG MAKES AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, UNDER STATUTE OR ARISING OTHERWISE IN LAW, FROM A COURSE OF DEALING OR USAGE OF TRADE, INCLUDING WITHOUT LIMITATION, ANY OTHER WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR USE, ARE DISCLAIMED BY PPG. Any claim under this warranty must be made by Buyer to PPG in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life of the product, or one year from the date of the delivery of the product to the Buyer, whichever is earlier. Buyer's failure to notify PPG of such non-conformance as required herein shall bar Buyer from recovery under this warranty.

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